



Mean of Belly Button Heights

How to Get a Random Sample from CensusAtSchool

Go to the CensusAtSchool [Random Sampler](#) to download a sample.X

Reference year: *Select year* **Sample size:** *At least 30 students*

Select questions: *Belly button height*

Location: *Select location* **Year level:** *Select a range of year levels*

To protect privacy there is a rule built into the sampler that the requested sample size cannot exceed 10% entered.

Task One: Your Estimation

1. In your CensusAtSchool random sample, find the question about Belly Button Height.

Outliers can be the result of an error or an unusual value. As outliers can affect summary statistics obtained from a data set, it is usual to remove them. We can often identify possible outliers by eye as they are different to the rest of the data set. In this case, we will consider numbers outside the range of 80 – 110cm to be outliers.

Write ten values for belly button heights below. If you find an outlier or a blank, go to the next value in your list.

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2. Showing your working, calculate the mean.

Mean Belly Button Height of my random sample is: _____

3. You are told that the mean Belly Button Height of a sample is 103 cm. Create a realistic sample of ten belly button heights below that will give you a mean of 103cm. You cannot have more than two numbers that are identical.

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4. Get your neighbour to check your data sample of ten has a mean of 103cm.

"This data sample of ten has a mean of 103cm." signed:

Extension:

5. Explain in words how you went about creating a sample of ten numbers that had a mean of 103cm.